ture, and the number contains the Index to Volume XVII. It is noted that hereafter *The Auk* will be published by Edward W. Wheeler, 30 Boylston Street, Cambridge, Mass.

THE October number (Volume 7, No. 1) of the *Bulletin of the American Mathematical Society* contains the following articles : Report of the recent summer meeting of the Society, by the Secretary ; ' The Undergraduate Mathematical Curriculum,' report of the discussion at the Summer Meeting, by Professor W. H. Maltbie ; ' On a Memoir by Ricardo de Paolis,' by Professor Charlotte Angas Scott ; ' Notes '; and ' New Publications.' The November number of the *Bulletin* contains. ' The International Congress of Mathematicians in Paris,' report by Professor Charlotte Angas Scott ; ' The Forty-ninth Annual Meeting of the American Association for the Advancement of Science,' report of the meeting of Section A, by Dr. G. A. Miller ; ' Note on Geometry of Four Dimensions,' by Professor E. O. Lovett ; ' Notes' ; and ' New Publications.'

The October (closing) number of Volume 1 of the *Transactions of the American Mathematical Society* contains the following papers : ' On Surfaces enveloped by Spheres belonging to a Linear Spherical Complex,' by P. F. Smith ; ' On Certain Relations among the Theta Constants,' by J. I. Hutchinson ; ' On the Groups which have the same Group of Isomorphisms,' by G. A. Miller ; ' Die Hesse'sche und die Cayley'sche Curve,' by P. Gordan ; ' Application of a Method of D'Alembert to the Proof of Sturm's Theorems of Comparison,' by M. Bôcher; ' Two Plane Movements Generating Quartic Scrolls,' by E. M. Blake ; ' The Invariant Theory of the Inversion Group : Geometry upon a Quadric Surface,' by E. Kasner ; ' A Simple Proof of the Fundamental Cauchy-Goursat Theorem,' by E. H. Moore ; 'Notes and Errata,' Volume I.

CAMBRIDGE UNIVERSITY press will begin on the first of January next the publication of a quarterly *Journal of Hygiene*, to be edited by Dr. G. H. F. Nuttall, Lecturer in Bacteriology and Preventive Medicine in the University of Cambridge, Dr. John Haldane, F.R.S., Lecturer in Physiology in the University of Oxford, and Dr. Arthur Newsholme, M. O. H., Brighton.

SOCIETIES AND ACADEMIES.

AMERICAN MATHEMATICAL SOCIETY.

A REGULAR meeting of the American Mathematical Society was held at Columbia University, New York City, on Saturday, October 27, 1900. Professor Thomas S. Fiske, Vice-President of the Society, occupied the chair during the two sessions. The total attendance amounted to thirty-two, including twenty-five members of the Society.

The Council announced the election of the following persons to membership in the Society : Professor George L. Brown, South Dakota Agricultural College, Brookings, So. Dak. ; Mr. Charles H. Davis, New York, N. Y. ; Dr. Derrick N. Lehmer, University of California, Berkeley, Cal. ; Miss Ida M. Schottenfels, Chicago, Ill. ; Professor Frank D. Sherman, Columbia University, New York, N. Y. ; Mr. Burke Smith, Northwestern University, Evanston, Ill. Twenty-five applications for admission to membership were received.

In response to the invitation of Cornell University the Summer Meeting and Colloquium of the Society will be held at Ithaca, August, 1901.

The following papers were presented at the October meeting :

(1) PROFESSOR MAXIME BÔCHER: ' On linear dependence of functions of one variable.'

(2) PROFESSOR DAVID HILBERT : ' Ueber Flächen von constanter Gauss'scher Krümmung.'

(3) PROFESSOR E. O. LOVETT : ' Three notes on the geometry of contact transformations.'

(4) DR. G. A. MILLER : ' On a theorem in substitutions.'

(5) PROFESSOR S. L. PENFIELD : ' The solution of spherical triangles by graphical methods, and exhibition of scales and protractors for plotting.'

(6) MISS I. M. SCHOTTENFELS : ' On a set of definitional functional properties for the analytic function

$$f(z) = \frac{\tan \pi z}{\pi}.'$$

(7) PROFESSOR P. F. SMITH : ' Geometry within a linear spherical complex.'

(8) DR. E. J. WILCZYNSKI : ' Invariants of systems of linear differential equations.'

(9) MR. H. W. KUHN : ' Several theorems on imprimitive groups.'

After the meeting several members of the Mathematical and Physical Societies dined and passed the evening together.

The next meeting of the Society will be the Annual Meeting for the election of officers, Friday, December 28, 1900.

F. N. COLE,
Secretary.

DISCUSSION AND CORRESPONDENCE.

ON THE SUPERINTENDENCY AND ORGANIZATION OF THE COAST SURVEY.

IN view of the fact that the superintendency of the U. S. Coast and Geodetic Survey is about to pass from the present incumbent to some successor, the following statements may be of interest :

First, as regards the selection of a superintendent. Here there ought to be no serious difficulty ; for, although persons suitable and available for the position are not numerous, the appointing power is free to select from all who may become known to him. He is not, like the voter, practically confined in his choice to two or three nominees. It seems proper that scientific bodies (notably the National Academy of Sciences), if not called upon as advisers, should take the initiative and bestir themselves, in order that a suitable man for this important position may be selected. Let them at least formulate the requirements for the place ; then he who best measures up to such requirements should be the one to be selected. Or, perhaps better still, an advisory committee of mathematicians, physicists and astronomers might be appointed by the Chief Executive from this Academy and the faculties of our leading universities. What is wanted is a man of mature intellect and broad and thorough scholarship. If possible, he should already have made for himself a substantial reputation in the scientific world—this would, in fact, be a proof of his thoroughness and perseverance. But let no man be selected whose sole claim is a little technical skill or a familiarity with the organization. This remark is in no wise intended to decry the importance of experience, whether in field, laboratory or observatory.

It is perhaps not very generally understood that the organization of the Survey is radically wrong or at least not such as should underlie a scientific bureau in our day and generation. Its one fatal defect is its semi-military character. I say *semi*-military because it is open to that favoritism so much complained of in our late Spanish War, without having the wholesome restrictions thrown about a purely military organization. This places a fortunate few in virtual control of the many. In some instances this might be excused on the ground of the necessities of the case ; in other words, in certain matters there must be some head. But if the fortunate few are assumed to have, by virtue of their positions, a monopoly of all brain tissue, and so are made to constitute the sole advisers of the superintendent in all matters relating to the work of the Survey, and even in the elevation and degradation of the personnel, it becomes evident to any disinterested observer that no universal good-fellowship can exist— and without this, good scientific work is impossible.

Suppose this oligarchy were to fortify itself behind certain rules designed for bureaus whose work is chiefly clerical ; then an employee not specially empowered to look after others must needs be very guarded in his associations with his co-workers. Thus it might readily come to pass that persons working for years in the office at allied work scarcely have a speaking acquaintance with one another. Free discussion of work between non-commissioned employees would probably be frowned upon as seditious or as nursing conspiracies. The dangers of such a system to scientific work and thought are so obvious to anyone that its defense can hardly be seriously entertained. But there are other dangers as well as a great injustice in the system ; for the management might fall into the hands of unscrupulous parties. In matters purely scientific, if there is to be any subordination, the smaller intellects should do homage to the greater ; and in matters in general, unless there are most cogent reasons to the contrary, the older and more experienced should have the directing of the younger. This is a law of natural instinct and is in accordance with the laws of logic and of ethics ; it is not to be lightly set aside. But enforced or artificial superiority and inferiority might put inferior minds over the superior, and make tyros chiefs of divisions and of field parties.

In this brief space no elaborate scheme of reorganization will be attempted. But it is safe